



Virginia Department of Health DIVISION OF ENVIRONMENTAL EPIDEMIOLOGY

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Rat-Bite Fever or *Actinobacillus muris* and *Spirillum minus*

What is Rat-bite fever?

Rat-bite fever (RBF) is bacterial disease caused by *Actinobacillus muris* and *Spirillum minus*. In the United States, rat-bite fever is primarily due to infection with *A. muris*. Rats are the main reservoir of these organisms.

Who gets Rat-bite fever?

People exposed to infectious rat secretions may become ill. Direct contact with a rat is not necessary. RBF is rare in the United States, however, since it is not a notifiable disease, exact numbers of cases are not known.

Where is Rat-bite fever found?

Any rat has the potential to be a reservoir for this disease. Laboratory rats, pet rats and other small animals, like squirrels and gerbils are rarely infected.

How is Rat-bite fever spread?

People are infected by being exposed to infectious rat secretions. This can occur through a bite, ingesting contaminated water or living in a rat-infested building.

What are the symptoms?

In RBF due to *Actinobacillus muris*, an abrupt onset of chills and fever, headache and muscle pain, is followed within 1 to 3 days by a rash on the extremities. One or more joints may become swollen and painful. If untreated, severe complications including infection of the heart valves may occur.

The illness caused by *Spirillum minus* is common in Asia, particularly Japan. In this form of RBF, a particular skin rash characterized by red or purple plaques is frequently seen, and the previously healed wound at the site of the bite may reactivate and open.

How soon after the exposure do the symptoms appear?

Symptoms begin with 2 to 10 days after the exposure.

Do infected people need to be excluded from work or school?

No. RBF is NOT transmitted from person to person. You can only get infected from an infected animal, typically through a bite or scratch.

Is there a treatment for Rat-bite fever?

Yes. Rat-bite fever can be treated with antibiotics. Treatment is highly effective.

How can Rat-bite fever be prevented?

Rodent proof dwellings and reduce rat populations to decrease your risk of exposure. If you cannot avoid contact with rats, wear protective gloves, practice regular handwashing and avoid hand-to-mouth contact when handling rats or cleaning rat cages. Victims of rodent bites should receive post exposure prophylaxis with antibiotics.